



SAFETY TIP OF THE WEEK



BATTERY SAFETY TIPS

During a 12-month study period an estimated 7,051 persons were treated in hospital emergency rooms for injuries resulting from an activity involving vehicle batteries. An estimated 6,280 persons (32% of 7,051 vehicle battery injuries) were injured as a direct result of a battery explosion. Thirty-one percent of the persons injured by battery explosions were charging the battery.

Batteries expel explosive gasses. Keep sparks, flames, burning cigarettes or other ignition sources away at all times. Production of explosive battery gasses alone does not cause a battery to explode. It's the combination of explosive gasses and some type of spark or flame that, on a rare occasion, results in an explosion. A short circuit across the terminals of the battery many times is the spark that caused the explosion. If a battery explodes during starting, for example, this is often caused by a low level of battery fluid and/or an inadequate cable connection. When batteries are being recharged, there is an increased potential for an explosion. Charging batteries will generate hydrogen gas that is explosive in certain concentrations in air (the flammability or explosive limits are 4.1% to 72% hydrogen in air). The spark-retarding vents help slow the rate of release of hydrogen, but the escaping hydrogen may form an explosive atmosphere around the battery if ventilation is poor. A battery explosion is a rare occurrence. However, since it is a possibility, it's important to follow battery safety tips when working on or near batteries.

Always wear safety goggles and a face shield when working near batteries.

Several factors increase the possibility of a battery explosion:

- (1) low water level in the battery,
- (2) overcharging,
- (3) high electrolyte temperature,
- (4) a poor external connection and
- (5) poor jump starting procedures.



LEAD ACID BATTERIES CONTAIN SULPHURIC ACID WHICH CAN CAUSE SEVERE BURNS OR EVEN BLINDNESS.

FIRST AID

1. Immediately flood the affected area with water under low pressure for at least 15 minutes. With potential eye injury even seconds can make the difference in minimizing serious injury.
2. Remove contaminated clothing
3. Seek First Aid Support.



A chemical battery explosion is one of the most serious and sight-threatening types of eye injuries. The leading cause of acid burns to the eye is exploding car batteries. Safety guidelines for jump-starting a car battery include:

- In your car, keep a pair of splash-proof polycarbonate goggles with the designation Z-87 on the frame. Always wear these goggles when re-charging a car battery.
- Jumper cables should be rust and corrosive-free. Jumper cables with exposed wires (even if they have been covered with electrical tape) should never be used to jump-start a car.
- At attach the **negative ground** of the **dead battery last**.

· Always purchase the battery recommended by your car's manufacturer.

· Never improperly dispose of a battery by throwing it in a dumpster or trashcan. The battery acid is recycled by neutralizing it into water or converting it to sodium sulfate for laundry detergent, glass and textile manufacturing. The plastic is recycled by cleaning the battery case, melting the plastic and reforming it into uniform pellets. Lead, which makes up 50% of every battery, is melted, poured into slabs and purified. Ask your mechanic or service station where it can be disposed in an appropriate manner.

- Never jump-start a battery if the radiator fluid, gas or battery fluid is frozen.
- Always call a professional if you are unsure of how to properly jump-start a vehicle.

When a chemical injury occurs the eyes should be irrigated for at least fifteen minutes with any neutral fluid that is available (e.g., saline solution or water).

After irrigating the eye, emergency medical care should be sought immediately.